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- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NOVEL DEVICE

(57) Abstract: A closure system for a pharmaceutical vial, comprising an elastomer closure part, a clamp part which holds the closure part in engagement with the mouth of the vial, and a cover part which engages with the clamp part. The interior of the closure part is profiled to minimise retention of residual liquid therein.

WO 2004/018317 A2

WC 2004/018317 A3



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/09151

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65D51/00 B65D23/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D A61J B01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 516 480 A (MANUFACTURE LYONNAISE DE BOUCHAGE) 20 May 1983 (1983-05-20)	1,3,5-7, 9,12, 14-18,20
Y	the whole document	4,8,19
Y	DE 18 11 304 A (HELVOET) 18 June 1970 (1970-06-18) page 1, line 1 - line 7	4,8
X	page 6, line 7 -page 8, line 11; figures 1,2	15,16
Y	US 2002/023409 A1 (PY) 28 February 2002 (2002-02-28) cited in the application claim 1	19
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

31 March 2004

Date of mailing of the international search report

14.04.2004

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/09151

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 598 137 A (ASTRA PLASTIQUE) 6 November 1987 (1987-11-06) page 5, line 17 -page 9, line 11; figures 1-3 ---	1,3,5-7, 9,12, 14-18
X	DE 12 28 028 B (THE WEST CY) 3 November 1966 (1966-11-03) column 3, line 23 -column 5, line 38; figures 1-7 ---	1-3,5,7, 9,12, 14-17
X	US 5 718 348 A (MANERA) 17 February 1998 (1998-02-17) the whole document ---	1-3,6,7, 9,10,12, 14-17
X	US 6 068 150 A (MITCHELL) 30 May 2000 (2000-05-30) figures 6,7 ---	15,16
X	EP 0 564 037 A (STERLING WINTHROP) 6 October 1993 (1993-10-06) figure 7 ---	20
X	DE 90 05 326 U (BIERWAS) 16 August 1990 (1990-08-16) page 3, line 20 -page 6, line 19; figures 1,2 ---	23,24
X	US 5 000 331 A (CONLON) 19 March 1991 (1991-03-19) column 2, line 22 - line 25; figure 1 -----	23,24

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-22

1.1. Claims: 1-19

Closure system for a vial comprising a closure part, a clamping part and a cover part, a vial and a method of filling and closing a vial.

1.2. Claims: 20-22

A vial closure having a plug part.

2. Claims: 23,24

A stand for a vial.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/09151

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/09151

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2516480	A	20-05-1983	FR 2516480 A1	20-05-1983
			BR 8206445 A	27-09-1983
			DE 3241283 A1	19-05-1983
DE 1811304	A	18-06-1970	DE 1811304 A1	18-06-1970
US 2002023409	A1	28-02-2002	BR 0116879 A	17-02-2004
			CA 2449704 A1	22-08-2002
			EP 1370471 A1	17-12-2003
			WO 02064439 A1	22-08-2002
			US 2003159750 A1	28-08-2003
FR 2598137	A	06-11-1987	FR 2598137 A1	06-11-1987
DE 1228028	B	03-11-1966	NONE	
US 5718348	A	17-02-1998	DE 29710136 U1	14-08-1997
			FR 2753180 A1	13-03-1998
			JP 10095451 A	14-04-1998
			US 6070748 A	06-06-2000
US 6068150	A	30-05-2000	EP 1098821 A1	16-05-2001
			JP 2002535213 T	22-10-2002
			WO 0044637 A1	03-08-2000
EP 564037	A	06-10-1993	AT 156088 T	15-08-1997
			AU 3280593 A	07-10-1993
			BR 9301388 A	13-10-1993
			CA 2091020 A1	03-10-1993
			CZ 9300543 A3	15-11-1995
			DE 69312545 D1	04-09-1997
			DE 69312545 T2	19-02-1998
			DK 564037 T3	29-09-1997
			EP 0564037 A1	06-10-1993
			ES 2108205 T3	16-12-1997
			FI 931501 A	03-10-1993
			HU 67955 A2	29-05-1995
			IL 105247 A	15-04-1997
			JP 6039017 A	15-02-1994
			MX 9301044 A1	01-10-1993
			NO 931288 A	04-10-1993
			NZ 247323 A	26-03-1996
			SK 27493 A3	10-11-1993
			US 5219083 A	15-06-1993
DE 9005326	U	16-08-1990	DE 9005326 U1	16-08-1990
US 5000331	A	19-03-1991	NONE	